conspectus of the group which includes brief treatments of the extinct orders Cycadofilicales, Cordaitales, and Bennettitales. The development and structure of the seed are covered here, including the details of ovule ontogeny, megasporogenesis, the formation of the megagametophyte, pollination, and fertilization. This discussion is followed by a brief statement on embryogeny and seed maturation. The second chapter in this series is devoted to the living cycads and *Ginkgo*. Megasporophyll evolution is illustrated by drawings of various cycads; the cycad life cycle by another series. The details of ovule development and of embryogeny not found in the introductory chapter are included here. The Coniferales occupy the third chapter and are introduced by a systematic treatment of the principal families. This is followed by the usual section on organography and anatomy. Florin's work on Paleozoic and Mesozoic conifers is reported in connection with leaf and strobilus evolution and structure. The life cycle of modern conifers is illustrated by *Pinus*. Included here are the details of fertilization, embryogeny and seed development. Then other conifers are compared with *Pinus*. The final chapter on the Gymnosperms deals with the Gnetales. The structure and life cycle of *Ephedra* are presented in detail, followed by a brief statement of the differences between *Ephedra* and the other genera, *Gnetum* and *Welwitschia*.

The final section of the book consists of two chapters on the Angiosperms. The first of these chapters treats the general structure and evolution of the group, while the second is devoted to the reproductive cycle. Under general structure, leaf morphology is described in detail, with series of illustrations of venation patterns. Stem and root structure are covered more briefly, but a concise statement of modern views on nodal anatomy and its phylogenetic significance is included, as is a brief statement on wood anatomy. The major part of the chapter is devoted to the problems of floral morphology, including theories of the nature of the flower, and the impact of evidence from floral vascular anatomy and from floral ontogeny on these theories. The vast body of work on primitive woody Ranales by Bailey and his associates during the past twenty years is drawn upon for evidence on phylogeny of stamens and carpels. The last chapter on angiosperm reproduction describes microsporangium development and microsporogenesis, the development of the male gametophyte, the ovule, megasporocyte, megasporogenesis, and embryo sac, with detailed discussion of the important types of the latter. The events of fertilization, endosperm development, and embryogeny follow, with a final discussion of seeds and seedlings.

In summary, Foster and Gifford's "Comparative Morphology of Vascular Plants" is an excellent work featuring clear discussions and illustrations, with an organization that should prove a boon to morphology teaching.—Sanford S. Tepfer, University of Oregon, Eugene.

NOTES AND NEWS

From June through late December, 1959, with the aid of a National Science Foundation grant, Dr. Fritz Ehrendorfer intensified his field and laboratory studies, started several years ago, on the genus *Galium* in the western United States. He returned to Vienna to take up his new duties as Assistant Curator of the Naturhistorisches Museum.

Professor Herbert L. Mason, who recently was the recipient of a Fulbright award, will be taking a sabbatical year from the University of California commencing February 1. He will be in residence at the University of Auckland, New Zealand, devoting his time mainly to studies of floristic relations in the Southern Hemisphere.